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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/908,953	07/19/2001	Robert W. Schwanke	2001P13007 US	1929

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 Siemens Corporation
 Intellectual Property Department
 186 Wood Avenue South
 Iselin, NJ 08830

EXAMINER

HECK, MICHAEL C

ART UNIT	PAPER NUMBER
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3623

DATE MAILED: 08/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/908,953	Applicant(s) SCHWANKE, ROBERT W.	
	Examiner Michael C. Heck	Art Unit 3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/19/01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The following is a First Office Action in response to the application filed 19 July 2001. Claims 1-37 are pending in this application and have been examined on the merits as discussed below.

Drawings

2. The drawings are objected to because Figure 5 has two "Applications" boxes depicted in which each one is identified with reference character 63, however the lower "Applications" box is not mentioned in the description. Specifically, Figure 5 shows a relationship between the "Work List Handler", "Participant Interface" and "Applications", however the relationships are not discussed nor indicated as being material to the invention. Therefore, it is recommended that the lower "Applications" box be removed along with the links. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If

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the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:
- On page 7, line 21, delete "aborted 35" and insert -- aborted **36** --.
 - On page 21 line 24 to page 22, line 1; page 23, lines 15-16; and page 26, line 9, delete "activity scheduler 60" and insert -- activity scheduler **56** --.
 - On page 28, line 1, delete "auto-routing specification 56" and insert -- auto-routing specification --.
 - On page 29, line 13, delete "An activity is not made listed in the work item pool" and insert -- An activity is not listed in the work item pool --.
 - On page 30, lines 1 and 5, delete "auto-routing module 65" and insert -- auto-routing **server** 65 --.
 - On page 30, lines 21-22, delete "archiving specification 57" and insert -- archiving specification --.
 - On page 39, lines 8-9, delete "state-based schedule rules specification 58" and insert -- state-based schedule rules specification --.

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The above citation is a mere guide. Applicant is requested to review the specification thoroughly to eliminate additional errors. Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. **Claims 20-28** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

- (1) whether the invention is within the technological arts; and
- (2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For the process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts. In the present case, **claims 20-28** only recite an abstract idea. As to **claim 20**, the recited steps of generating a process instance from a process definition; determining which activities associated with the process

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instance are scheduled for enactment based on activity specifications; and computing an order in which scheduled activities can be enacted based on activity specifications and a current execution state of the process instance does not apply, involve, use, or advance the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. The method only constitutes an idea for executing a data-triggered process, therefore, is deemed to be directed to non-statutory subject matter.

As to technological arts recited in the preamble, mere recitation in the preamble (i.e., intended or field of use) or mere implications of employing a machine or article of manufacture to perform some or all of the recited steps does not confer statutory subject matter to an otherwise abstract idea unless there is positive recitation in the claim as a whole to breathe life and meaning into the preamble. In the present case, none of the recited steps are directed to anything in the technological arts as explained above. Looking at the claim as a whole, nothing in the body of the claim recites any structure or functionality to suggest that a computer performs the recited steps. Therefore, the preamble is taken to merely recite a field of use.

Additionally, for a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result. In the present case, the claimed invention produces an order (i.e., repeatable) in which scheduled activities can be enacted (i.e., useful and tangible).

Looking at the claims as a whole, nothing in the body of the claims recite any structure or functionality to suggest that a computer performs a task.

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Although the recited process produces a useful, concrete, and tangible result, since the claimed invention, as a whole, is not within the technological arts as explained above, the same rejection as stated above for claim 20 applies to **claims 21-28**.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1-37** are rejected under 35 U.S.C. 103(a) as being unpatentable over the Hollingsworth (Hollingsworth, Workflow Management Coalition, The Workflow Reference Model, Document Number TC00-1003, Issue 1.1, 19 January 1995 [GOOGLE]) and the Workflow Management Coalition (Workflow Management Coalition, Workflow Management Coalition Terminology and Glossary, Document Number WPMC-TC-1011, Issue 3.0, February 1999 [GOOGLE]) in view of Georgakopoulos et al. (U.S. Patent Application 2002/0055849). The Examiner interprets Hollingsworth and the Workflow Management Coalition as one reference since Hollingsworth is the Workflow Reference Model using the Terminology as defined by the Workflow Management Coalition Terminology and Glossary. Hollingsworth and the

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Workflow Management Coalition disclose a data-triggered workflow process comprising:

- **[Claim 20]** of generating a process instance from a process definition (Workflow Management Coalition: p. 16. the Workflow Management Coalition teaches a process instance as the representation of a single enactment of a process. A process instance is created, managed and terminated by a workflow management system, in accordance with the process definition.);
- computing an order in which scheduled activities can be enacted based on activity specifications and a current execution state of the process instance (Hollingsworth: p. 13, Hollingsworth teaches the workflow enactment software interprets the process description and controls the instantiation of processes and sequencing of activities, adding work items to the user work lists and invoking applications tools as necessary.).

Hollingsworth and the Workflow Management Coalition fail to teach determining which activities associated with the process instance are scheduled for enactment based on activity specifications. Georgakopoulos et al. teach the process definition tool enables a user to model or develop a workflow process definition that is capable of being interpreted by the workflow management engine. Process definitions may reference pre-existing organization/role model data as well as external applications. An activity placeholder is a novel abstract activity type that enables the specification of activities whose concrete types and/or implementation may be unknown at the time a process is specified (para 31 and 48). It would have been obvious at the time of the applicant's invention to include the activity placeholder of Georgakopoulos et al. with the teachings of Hollingsworth and the Workflow Management Coalition since the Workflow Management Coalition teach the process definition consists of a network of

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activities and their relationships (Workflow Management Coalition: p. 11). Automation of processes helps companies become more efficient. Hollingsworth teaches the primary characteristic of Workflow Management is the automation of processes involving combinations of human and machine-based activities (Hollingsworth: p. 3). Georgakopoulos et al. teach process or workflow modeling and automation and workflow management software incorporate novel primitives to extend its flexibility and capability. Workflow systems using these primitives will be capable of supporting applications that are currently difficult, too expensive, or impossible to support with the existing rigid control flow and role assignment primitives (para 3 and 10). Therefore, implementing automation allows companies to avoid cost, therefore becoming more efficient. Hollingsworth and the Workflow Management Coalition, and Georgakopoulos et al. teach workflow management, therefore there is motivation to combine; and automation of processes, therefore there is a reasonable expectation of success. The combination of Hollingsworth and the Workflow Management Coalition, and Georgakopoulos et al. teach all the features of claim 20.

- **[Claim 21]** displaying a list of scheduled activities for selection by a participant of a desired scheduled activity (Georgakopoulos et al.: para 33 and 49, Georgakopoulos et al. teach the definition tool and engine support one or more primitives that enable a user to define and execute flexible and dynamic workflow models. At runtime, the resolution policy of an activity placeholder determines a specific activity type from an available pool of activity types to be submitted for the placeholder activity.).
- **[Claim 22]** recomputing an order in which scheduled activities can be enacted, if necessary, upon a change of state of an enacted activity. (Georgakopoulos et al.: para 48, Georgakopoulos et al. teach an activity placeholder may be declared at any point in a process

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specification where an activity could be declared. Activity placeholders may be replaced at runtime by specific activities.).

- **[Claim 23]** determining if an unscheduled activity is permitted to be enacted based on activity specifications (Georgakopoulos et al.: para 31 and 48, Georgakopoulos et al. teach the process definition tool enables a user to model or develop a workflow process definition that is capable of being interpreted by the workflow management engine. Process definitions may reference pre-existing organization/role model data as well as external applications. An activity placeholder is a novel abstract activity type that enables the specification of activities whose concrete types and/or implementation may be unknown at the time a process is specified.); and
- enacting the unscheduled activity if it is permitted (Georgakopoulos et al.: para 33, 49 and 51, Georgakopoulos et al. teach the definition tool and engine support one or more primitives that enable a user to define and execute flexible and dynamic workflow models. An activity placeholder is similar to any other activity variable in a process, but its type is left unspecified at process specification time. At runtime, the resolution policy of an activity placeholder determines a specific activity type from an available pool of activity types to be submitted for the placeholder activity. In this manner, the placeholder activity primitive gives the process developer great flexibility in defining activities and processes that may not be selected or defined during runtime.).
- **[Claim 24]** determining if an activity is expected to be enacted during execution of the process instance based on activity specifications (Hollingsworth: p. 12-13, Hollingsworth teaches the process definition contains all necessary information about the process to enable it to be executed by the workflow enactment software. This includes information about its starting and completion conditions, constituent activities and rules for navigating between them, user tasks to be undertaken, references to applications which may be invoked, definitions of any workflow relevant data which may need to be referenced, etc. The workflow enactment software interprets the process description and controls the instantiation of processes and sequencing of activities, adding work items to the user work lists and invoking application tools as necessary.); and
- preparing for enactment of the activity if it is expected (Hollingsworth: p. 13; Hollingsworth teaches the workflow enactment software interprets the process description and controls the instantiation of processes and sequencing of activities, adding work items to the user work lists and invoking application tools as necessary.).

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- **[Claim 25]** upon finishing an enacted activity, generating a message specifying a state of completion of the activity, recording the state of completion in a job record of the activity, and reevaluating rules of subsequent activities, if necessary, based on the state of completion (Workflow Management Coalition, p. 9, 37-38 and 51, Workflow Management Coalition teach a workflow management system that defines, creates and manages the execution of workflows through the use of software, which is able to interpret the process definition, interact with workflow participants and, where required, invoke and the use of IT tools and applications. A Transition is a point during the execution of a process instance where one activity completes and the thread of control passes to another, which starts. A transition may be unconditional, such that completion of one activity always leads to the start of another, or conditional, where the sequence of operation depends upon one or more transition conditions. A transition condition is a logical expression, which may be evaluated by a workflow engine to decide the sequence of activity execution within a process. Transition conditions identify the flow relationship between activities and are used to effect the desired sequence of activity execution. An audit data is a historical record of the progress of a process instance from start to completion or termination. Such data normally incorporates information on the state transitions of the process instance. The Examiner interprets software that interacts with participants to be generating a message.).
- **[Claim 26]** computing an order in which scheduled activities can be enacted comprises using a resources specification of scheduled activity to determine a priority of the scheduled activity (Hollingsworth: p. 13 and 21, Hollingsworth teaches the workflow enactment software interprets the process description and controls the instantiation of processes and sequencing of activities, adding work items to the user work lists and invoking application tools as necessary. Interaction with external resources accessible to the particular enactment service occurs via one of two interfaces. The client application interface is responsible for organizing work on behalf of a user resource, and the invoked application interface enables the workflow engine to directly activate a specific tool to undertake a particular activity.).
- **[Claim 27]** automatically routing a data item associated with an activity based on activity specifications (Hollingsworth: p. 14, Hollingsworth teaches workflow application data is manipulated directly (and only) by the invoked applications, although the workflow engines may be responsible for transferring such data between applications (if

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necessary), as different applications are invoked at different activity points within the workflow process.).

- **[Claim 28]** automatically archiving a data item associated with an activity based on activity specifications (Workflow Management Coalition, p. 51, Workflow Management Coalition teach an audit data is a historical record of the progress of a process instance from start to completion or termination. Such data normally incorporates information on the state transitions of the process instance.).

Claims 1-19 and 29-37 substantially recite the same limitations as that of claims 20-28 with the distinction of the recited method being a system and a program storage device readable by a machine. Hence the same rejection for claims 20-28 as applied above applies to claims 1-19 and 29-37.

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Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Michael C. Heck whose telephone number is (571) 272-6730. The Examiner can normally be reached Monday thru Friday between the hours of 8:30am - 4:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq R. Hafiz can be reached on (571) 273-6729.

Any response to this action should be mailed to:

**Director of the United States Patent and Trademark Office
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[Informal/Draft communication, labeled "**PROPOSED**" or "**DRAFT**"]

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24 June 2005

Susanna Diaz

**SUSANNA M. DIAZ
PRIMARY EXAMINER**

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